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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,537	09/27/2001	Daisuke Kitazawa	214342US2	9241

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EXAMINER	
RAMAKRISHNAIAH, MELUR	
ART UNIT	**PAPER NUMBER**
2643	

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/963,537	KITAZAWA ET AL.	
	Examiner	Art Unit	
	Melur Ramakrishnaiah	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 September 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,8-13,15,17 and 18* is/are rejected.

7)☒ Claim(s) *5,7,14 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4-25-05,9-20,04,8-30-04,7-18-03,7-4-03,6-9-03*
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1, 10, are rejected under 35 U.S.C 102(e) as being anticipated by Carneal et al. (US PAT: 6,982,969 B1, filed 9-28-1999, hereinafter Carneal).

Regarding claim 1, Carneal discloses a communication apparatus which communicates with plurality of wireless terminals, comprising: an assignment order determination unit in (210, fig. 2) which determines assignment order of wireless channels between the communication apparatus (210, fig. 2) and the wireless terminals (for example 212, 214, 216, fig. 2) based on an amount of data to be transmitted from a transmission end (210, fig. 2) for every wireless terminal, and communication quality at a reception end for every wireless terminal, and a wireless assignment part in (210, fig. 1) which assigns, according to the thus determined assignment order wireless channels between the communication apparatus and the wireless terminals (fig. 2, line 62 – col. 6, line 44).

Regarding claim 10, Carneal discloses a method of assigning wireless channels in a communication apparatus which communicate with plurality of terminals, consisting the steps of : determining an assignment order of wireless channels between the

communication apparatus (210, fig. 2) and the wireless terminals (for example 212, 214, 216, fig. 2) based on amount of data to be transmitted from a transmission end for every wireless terminal, and communication quality at a reception end for every wireless terminal, and assigning, according to thus determined order, the wireless channels between the communication apparatus and the wireless terminals (fig. 2, line 62 – col. 6, line 44).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal in view of Edwards et al. (US PAT: 6,198,734 B1, filed 1-29-1997, hereinafter Edwards).

Carneal differs from claims 8 and 17 in that he does not teach the following: the assignment order determination part determines the assignment order of the wireless channels between the communication apparatus and the wireless terminals based on the number of modulation levels corresponding to communication quality at the reception end for every wireless terminal, instead of determining assignment order of the wireless channels between the communication apparatus and the wireless terminals based on the communication quality at the reception end for every wireless terminal.

However, Edwards discloses the following: varying the modulation level and number of slots corresponding to the communication quality of the reception end for every wireless terminal, instead of determining assignment order of the wireless channels between the communication apparatus and the wireless terminals based on the communication quality at the reception end for every wireless terminal (col. 3 lines 6-19).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Carneal's system to provide for the following: the assignment order determination part determines the assignment order of the wireless channels between the communication apparatus and the wireless terminals based on the number of modulation levels corresponding to communication quality at the reception end for every wireless terminal, instead of determining assignment order of the wireless channels between the communication apparatus and the wireless terminals based on the communication quality at the reception end for every wireless terminal as this arrangement would facilitate to increase the system capacity by mitigating the effect of spatially distributed electric filed strength variation as taught by Edwards.

5. Claims 2, 6, 11, 15, are rejected under 35 U.S.C 102(e) as being anticipated by Mitjana et al. (EP 1030530 A2, hereinafter Mitjana).

Regarding claims 2 and 11, Mitjana discloses a communication apparatus which communicates with a plurality of wireless terminals, comprising: an assignment order determination part in (BS, fig. 1) which determines assignment order or wireless channels between the communication apparatus (BS, fig. 1) and the wireless terminals

based on a maximum stay time of data to be transmitted from a transmission end for every wireless terminal, and a communication quality at a reception end for every wireless terminal, wireless channel assignment part in (BS, fig. 1) which assigns, according to the thus determined assignment order, the wireless channels between the communication apparatus and the wireless terminals (fig. 1, see abstract, claims 1-3, 5, 8).

Regarding claims 6 and 15, Mitjana further teaches the following: based on maximum stay time and the amount of data to be transmitted and the communication quality , the assignment order determination part determines assignment order of the wireless channels (fig. 1, see abstract, claims 1-3, 5, 8).

6. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitjana in view of Kumar et al. (US PAT: 6,507,568, hereinafter Kumar).

Mitjana diifers from claims 3 and 12 in that although he teaches the following: communication apparatus (BS, fig. 1) acts as the transmission end, and assignment order determination part in (BS, fig. 1) determines assignment order of the wireless channels based on maximum stay time of the data to be transmitted measured in the communication apparatus ((fig. 1, see abstract, claims 1-3, 5, 8); he does not teach the following: communication quality measured in each wireless terminal for channel assignment. However, it is notoriously well known in the art to measure communication quality such as SNR in wireless terminal in connection with channel assignment (see col. 4 lines 36-51 of '568).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Mitjana's system to provide for the following: communication quality measured in each wireless terminal for channel assignment as this arrangement would facilitate channel assignments based on signal quality between communication devices in order to make sure satisfactory radio environment for data transmission.

7. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitjana in view of Carneal.

Mitjana differs from claims 4 and 13 in that although he teaches the following: communication apparatus (BS, fig. 1) acts as the reception end, the assignment order determination part in (BS, fig. 1) determines the assignment order of the wireless channels based on maximum stay time (fig. 1, see abstract, claims 1-3, 5, 8); he does not teach the following: measuring the communication quality in the communication apparatus in order to manage channel assignment and data transmission.

However, Carnea teaches the following: measuring the communication quality in the communication apparatus (210, fig. 1) in order to manage channel assignment and data transmission (fig. 2, col. 5 lines 26-63).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Mitjana's system to provide for the following: measuring the communication quality in the communication apparatus in order to manage channel assignment and data transmission as this arrangement would facilitate channel

assignments based on signal quality between communication devices in order to make sure satisfactory radio environment for data transmission.

8. Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitjana in view of Edwards.

Mitjana differs from claims 9 and 18 in that he does not teach the following: the assignment order determination part determines the assignment order of the wireless channels between the communication apparatus and the wireless terminals based on the number of modulation levels corresponding to communication quality at the reception end for every wireless terminal, instead of determining assignment order of the wireless channels between the communication apparatus and the wireless terminals based on the communication quality at the reception end for every wireless terminal.

However, Edwards discloses the following: varying the modulation level and number of slots corresponding to the communication quality of the reception end for every wireless terminal, instead of determining assignment order of the wireless channels between the communication apparatus and the wireless terminals based on the communication quality at the reception end for every wireless terminal (col. 3 lines 6-19).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Carneal's system to provide for the following: the assignment order determination part determines the assignment order of the wireless channels between the communication apparatus and the wireless terminals based on the number of modulation levels corresponding to communication quality at the

reception end for every wireless terminal, instead of determining assignment order of the wireless channels between the communication apparatus and the wireless terminals based on the communication quality at the reception end for every wireless terminal as this arrangement would facilitate to increase the system capacity by mitigating the effect of spatially distributed electric filed strength variation as taught by Edwards.

9. Claims 5, 7, and 14, 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (571)272-8098. The examiner can normally be reached on 9 Hr schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Melur Ramakrishnaiah
Primary Examiner
Art Unit 2643